CLAIMS

1. A colored latex comprising a mixture of an uncolored initial latex and at least one initial aqueous dispersion of at least one pigment being under the form of particles, wherein:

- the particles of the pigment(s) are water-insoluble,
- at least X% of the particles of the one or more pigment(s) have a particle size L that is 370 nm or less, in the initial aqueous dispersion, X being equal to 90.

2. A colored latex according to claim 1, wherein at least X=95 % of the particles have a particle size L that is 370 nm or less.

3. A colored latex according to claim 2, wherein at least X=97 % of the particles have a particle size L that is 370 nm or less.

4. A colored latex according to claim 3, wherein at least X=99 % of the particles have a particle size L that is 370 nm or less.

5. A colored latex according to claim 4, wherein at least X=100 % of the particles have a particle size L that is 370 nm or less.

6. A colored latex according to any one of claims 1 to 5, wherein $L \leq 350$ nm.

7. A colored latex according to any one of the preceding claims, wherein $L \leq 320$ nm.

8. A colored latex according to any one of the preceding claims, wherein $L \leq 280$ nm.

9. A colored latex according to any one of the preceding claims, wherein the pigment particle mean size in the initial aqueous dispersion is less than 200 nm.

10. A colored latex according to claim 9, wherein the pigment particle mean size in the initial aqueous dispersion is less than 150 nm, preferably less than 100 nm.

11. A colored latex according to any one of the preceding claims, wherein the one or more initial aqueous dispersion(s) comprise(s) from 10 to 50% of the pigment(s) as related to the total weight of the initial aqueous dispersion (or of each of the initial aqueous dispersions).

12. A colored latex according to any one of the preceding claims, wherein the one or more pigment initial aqueous dispersion(s) represent(s) at most 10%, preferably at most 5%, by weight as related to the weight of the colored latex.

13. A colored latex according to any one of the preceding claims, wherein the initial latex is a latex based on (meth)acrylic polymers, polyurethanes, polyesters, styrene/(meth)acrylate copolymers, or butadiene/(meth)acrylate copolymers.

14. A colored latex according to any one of the preceding claims, wherein the initial latex is a latex based on (meth)acrylic polymers or polyurethane.

15. A colored latex according to any one of the preceding claims, wherein the initial latex has a dry matter content ranging from 20 to 50% by weight.

16. A colored latex according to any one of the preceding claims, wherein the initial latex particles are particles which size is less than 100 nm.

17. A colored latex according to any one of the preceding claims, wherein the initial latex is a polyurethane type latex, 95% by weight of which particles have a size of less than 15 nm, preferably of less than 10 nm.

18. A colored latex according to any one of the preceding claims, wherein the initial latex is an acrylic type latex more than 70% by weight, preferably more than 80% by weight, of which particles have a size ranging from 20 to 40 nm.

19. A colored latex according to any one of the preceding claims, wherein the initial latex comprises at least one anionic surfactant.

20. A colored latex according to claim 19 wherein the anionic surfactant(s) is or are selected from sodium dodecylsulfate, sodium dodecylbenzene sulfonate, and sodium dodecylnaphthalene sulfate.

21. A colored latex according to any one of the preceding claims, wherein the initial latex has a glass transition temperature Tg of less than 20°C, preferably of less than -20°C, more preferably of less than -30°C, and even more preferably of less than -40°C.

22. A method for producing a colored latex such as defined according to any one of the preceding claims, wherein it comprises a step of mixing the initial latex with the one or more pigment initial aqueous dispersion(s).

23. A method for treating a transparent substrate having a front main face and a rear main face, wherein it comprises a deposition step of a colored latex layer such as defined according to any one of claims 1 to 22 onto at least one said main face, followed by at least partially drying said layer.

24. A method according to claim 23, wherein the substrate is a mineral or an organic glass, preferably an organic glass.

25. A method according to claim 24, wherein the substrate is obtained by polymerizing alkyl (meth)acrylates, preferably C_1-C_4 alkyl (meth)acrylates, more

preferably methyl (meth)acrylate or ethyl (meth)acrylate, allyl derivatives, preferably aliphatic or aromatic, linear or branched polyol allyl carbonates, thio(meth)acrylates, urethanes, thiourethanes, aromatic polyethoxylated (meth)acrylates, preferably polyethoxylated bisphenolate dimethacrylates, epoxides, episulfides or carbonates.

26. A method according to claim 25, wherein polyol allyl carbonates are selected from ethyleneglycol bis (allyl carbonate), diethyleneglycol bis (2-methyl carbonate), diethyleneglycol bis (allyl carbonate), ethyleneglycol bis (2-chloro allyl carbonate), triethyleneglycol bis (allyl carbonate), 1,3-propanediol bis (allyl carbonate), propyleneglycol bis (2-ethyl allyl carbonate), 1,3-butadienediol bis (allyl carbonate), 1,4-butenediol bis (2-bromo allyl carbonate), dipropyleneglycol bis (allyl carbonate), trimethyleneglycol bis (2-ethyl allyl carbonate), pentamethyleneglycol bis (allyl carbonate), and isopropylene bis phenol-A bis (allyl carbonate).

27. A method according to any one of claims 23 to 26, wherein the colored latex layer has a thickness, once dried, ranging from 0.5 to 20 µm, preferably from 1 to 10 µm, more preferably from 5 to 7 µm.

28. A method according to any one of claims 23 to 27, wherein an uncolored latex layer is applied onto the colored latex layer prior to depositing the coating layer.

29. A method according to any one of claims 23 to 28, wherein it comprises a step of depositing onto the colored latex layer a coating composition layer preferably comprising a swelling agent for the colored latex.

30. A method according to claim 29, wherein the swelling agent is an organic solvent selected from C_1-C_6 alcohols, C_1-C_6 ketones and mixtures thereof.

31. A method according to any one of claims 23 to 30, wherein the coating layer is an anti-abrasion coating layer.

32. A method according to claim 31, wherein an antireflective coating layer is applied onto the anti-abrasion coating layer.

33. A method according to any one of claims 23 to 30, wherein the coating layer is an antireflective coating layer.

34. A method according to claim 33, wherein an anti-abrasion coating layer is applied onto the substrate prior to depositing the colored latex layer.

35. A method according to any one of claims 23 to 34, wherein a colored latex layer is only applied onto the rear main face of the substrate.

36. A method according to claim 35, wherein an anti-abrasion layer is applied onto the front main face of the substrate.

37. A method according to claim 36, wherein an antireflective coating layer is applied onto the anti-abrasion coating layer.

38. A method according to any one of claims 23 to 34, wherein a colored latex layer is applied onto the front main face and onto the rear main face of the substrate.

39. An ophthalmic lens comprising a transparent substrate having a front main face and a rear main face, wherein a colored latex layer such as defined according to any one of the claims 1 to 21 is applied onto the front main face and/or the rear main face of the substrate.

40. An ophthalmic lens according to claim 39, wherein the substrate is a mineral or organic glass, preferably an organic glass.

41. An ophthalmic lens according to claim 40, wherein the substrate is obtained by polymerizing alkyl (meth)acrylates, preferably C_1-C_4 alkyl (meth)acrylates, more preferably methyl (meth)acrylate or ethyl(meth)acrylate, allyl derivatives, preferably aliphatic or aromatic, linear or branched polyol allyl carbonates, thio(meth)acrylates, urethanes, thiourethanes, aromatic polyethoxylated (meth)acrylates, preferably polyethoxylated bisphenolate dimethacrylates, epoxides, episulfides or carbonates.

42. An ophthalmic lens according to claim 41, wherein polyol allyl carbonates are selected from ethyleneglycol bis (allyl carbonate), diethyleneglycol bis (2-methyl carbonate), diethyleneglycol bis (allyl carbonate), ethyleneglycol bis (2-chloro allyl carbonate), triethyleneglycol bis (allyl carbonate), 1,3-propanediol bis (allyl carbonate), propyleneglycol bis (2-ethyl allyl carbonate), 1,3-butadienediol bis (allyl carbonate), 1,4-butenediol bis (2-bromo allyl carbonate), dipropyleneglycol bis (allyl carbonate), trimethyleneglycol bis (2-ethyl allyl carbonate), pentamethyleneglycol bis (allyl carbonate), isopropylene bis phenol-A bis (allyl carbonate).

43. An ophthalmic lens according to any one of claims 39 to 42, wherein the colored latex layer has a thickness ranging from 0.5 to 20 µm, preferably from 1 to 10 µm, more preferably from 5 to 7 µm.